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Intensive Archaeological Survey of the Proposed SAWS Westlakes Water Main Project, Bexar County, Texas

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Bexar County, Texas

Antiquities Permit #8312

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Prepared for:
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Abstract

At the request of the San Antonio Water System (SAWS), an intensive archaeological survey was conducted by Pape-Dawson for the proposed Westlakes Water Main project located partially within the City of San Antonio in Bexar County, Texas. The project will entail the installation of approximately 5.2 miles (8.4 kilometers) of new water line. Two tie-ins as well as a segment of the main alignment that crosses Loop 1604 will be bored beneath the roadways while the remainder of the line will be laid out in a trench and backfilled. The project will consist of a total area of roughly 24.5 acres (9.9 hectares) extending across both public and private land. Though the vertical depths of impact are currently unknown, the maximum depth of ground disturbance within the water easement and existing road ROW is considered to be up to 8 feet (ft) (2.4 meters [m]) below the ground surface based on typical water line design, except at the bore location where impacts may be deeper. Ground disturbance within the temporary construction easement will be minimal and should not exceed 1 ft (30 centimeters [cm]) below the current ground surface.

Based on SAWS' status as a political subdivision of the State of Texas, compliance with the Antiquities Code of Texas (ACT) is required. However, as no Federal funding or permitting will be required for this project, compliance with Section 106 of the National Historic Preservation Act (NHPA) is not necessary.

Pape-Dawson conducted an archaeological survey for the Westlakes Water Main project between February 8 and 12, 2018. This work was conducted under Texas Antiquities Permit No. 8312. The project area was subjected to a pedestrian survey with shovel testing with the exception of one parcel that could not be accessed because right-of-entry had not been obtained at the time of the survey. However, this parcel has been heavily disturbed by commercial development, and therefore, has a low potential to contain intact archaeological deposits. A total of 66 shovel tests were excavated to investigate the project area. As a result of the pedestrian survey and shovel test efforts, it was determined that archaeological deposits associated with previously recorded sites 41BX1150 and 41BX2117 extend into the current project area.

Sites 41BX1150 and 41BX2117 are prehistoric lithic procurement sites of indeterminate temporal affiliation. The lithic scatter resulting from lithic procurement activities within the current project area comes within 30 m of each of these sites, largely bridging the gap between them. For this reason, Pape-Dawson submitted a site revisit form for 41BX1150 to TARL recommending that the two previously

recorded sites (41BX1150 and 41BX2117) be combined into one site (41BX1150) and that the site boundary for site 41BX1150 be expanded to include the lithic scatter within the current project area.

Within the portion of site 41BX1150 that extends into the current project area, no diagnostic material or features were observed. Lithic artifacts were primarily limited to the ground surface though a few artifacts were recovered subsurface at depths ranging from 0 to 20 cm below surface. Given the absence of diagnostic material and/or features, and the lack of intact subsurface deposits, Pape-Dawson recommends that the portion of site 41BX1150 within the current project area is not eligible for SAL designation.

Based on the results of the survey, Pape-Dawson recommends that no further archaeological work is necessary and that the project be allowed to proceed. However, if undiscovered cultural material is encountered during construction, it is recommended that all work in the vicinity should cease and that the discovery be evaluated by a qualified archaeologist who can provide guidance on how to proceed in accordance with state regulations.

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Management Summary

SAWS proposes to construct a water line in western Bexar County, Texas. The project area will have a total length of approximately 5.2 miles (8.4 kilometers [km]) and will be located on both private and public lands. The project will consist of a total area of roughly 24.5 acres (9.9 hectares [ha]). Though the vertical depths of impact are currently unknown, the maximum depth of ground disturbance within the water easement and existing road ROW is considered to be up to 8 feet (ft) (2.4 meters [m]) below the ground surface based on typical water line design, except at the bore location where impacts may be deeper. Ground disturbance within the temporary construction easement will be minimal and should not exceed 1 ft (30 centimeters [cm]) below the current ground surface.

Based on SAWS' status as a political subdivision of the State of Texas, compliance with the Antiquities Code of Texas (ACT) is required. Pape-Dawson applied for and received Texas Antiquities Permit No. 8312. However, as no Federal funding or permitting is required for this project, compliance with Section 106 of the National Historic Preservation Act (NHPA) is not necessary.

Pape-Dawson conducted the intensive archaeological survey between February 8 and 12, 2018. Melanie Nichols served as Principal Investigator and was assisted in the field by Jacob Sullivan, Megan Veltri, and Virginia Moore. As a result of the survey, it was determined that archaeological deposits associated with previously recorded sites 41BX1150 and 41BX2117 extend into the current project area. Sites 41BX1150 and 41BX2117 are prehistoric lithic procurement sites of indeterminate temporal affiliation. The lithic scatter resulting from lithic procurement activities within the current project area comes within 30 m of each of these sites, largely bridging the gap between them. For this reason, Pape-Dawson submitted a site revisit form for 41BX1150 to TARL recommending that the two previously recorded sites (41BX1150 and 41BX2117) be combined into one site (41BX1150) and that the site boundary for site 41BX1150 be expanded to include the lithic scatter within the current project area. Based on the results of the archaeological fieldwork, Pape-Dawson recommends that the portion of site 41BX1150 within the current project area is not eligible for SAL designation.

The principal investigator recommends that no further cultural resources work is necessary for the project area and that construction be allowed to proceed within the project area. However, if undiscovered cultural material is encountered during construction, it is recommended that all work in the vicinity should cease and that the discovery be evaluated by a qualified archaeologist who can provide guidance on how to proceed in accordance with state regulations.

Introduction

San Antonio Water System (SAWS) proposes to install a new 24-inch water line in western Bexar County, Texas (Figures 1 and 2). The proposed utility line will partially be located within the San Antonio city limits. The water main will begin roughly 0.6 miles (0.98 kilometers [km]) south-southeast of the intersection of Farm-to-Market Road 143 and Loop 1604. From this location, the water main will extend north paralleling Loop 1604 until its intersection with U.S. Highway 90 (US 90). The water main will then continue east along the south side of US 90 terminating at the southbound access road to Loop 410. In addition to the main alignment, two northern tie-ins that cross US 90 will be installed. These tie-ins as well as the segment of the main alignment that crosses Loop 1604 will be bored beneath the roadways.

The project area will have a total length of approximately 5.2 miles (8.4 km) and will be located on both private and public lands (Figures 3a-3e). On private land, the water line will be located within a 20-foot (ft)-wide (6.1 m) easement. A 25-ft-wide (7.6-m-wide) temporary construction easement will parallel the water line easement along the side furthest from the highway. On publicly-owned land, the water line will be limited to the width of the southern portion of the US 90 right-of-way (ROW), which will range from approximately 8 to 66 ft (2.4 to 20.1 m). The project will consist of a total area of roughly 24.5 acres (9.9 hectares). Though the vertical depths of impact are currently unknown, the maximum depth of ground disturbance within the water easement and existing road ROW is considered to be up to 8 ft (2.4 m) below the ground surface based on typical water line design, except at the bore location where impacts may be deeper. Ground disturbance within the temporary construction easement will be minimal and should not exceed 1 ft (30 cm) below the current ground surface.

Based on SAWS' status as a political subdivision of the State of Texas, compliance with the Antiquities Code of Texas (ACT) is required. Pape-Dawson applied for and received Texas Antiquities Permit No. 8312. However, as no Federal funding or permitting is required for this project, compliance with Section 106 of the National Historic Preservation Act (NHPA) is not necessary.

Pape-Dawson's investigations of the 24.5-acre project area included a pedestrian survey with shovel testing. Fieldwork took place between February 8 and 12, 2018. Melanie Nichols served as Principal Investigator and was assisted in the field by Jacob Sullivan, Megan Veltri, and Virginia Moore. The goals of the investigation were to: (1) locate all prehistoric and historic cultural resources, if present, within the project area; (2) establish vertical and horizontal site boundaries, as appropriate with respect to the project area; (3) evaluate the significance of recorded cultural resources with regard to State Antiquities Landmark (SAL) eligibility.

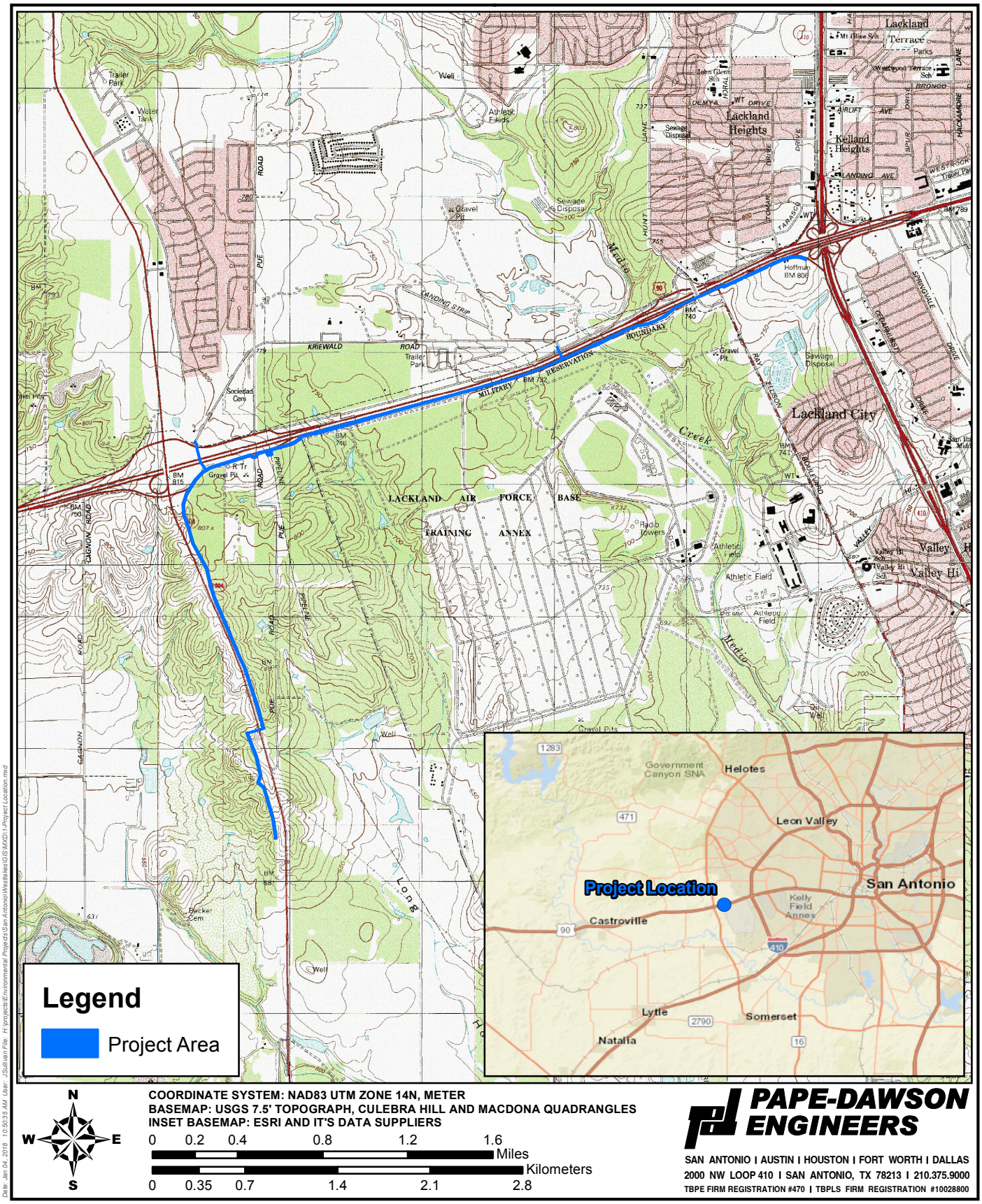


Figure 1 : Project Location Map

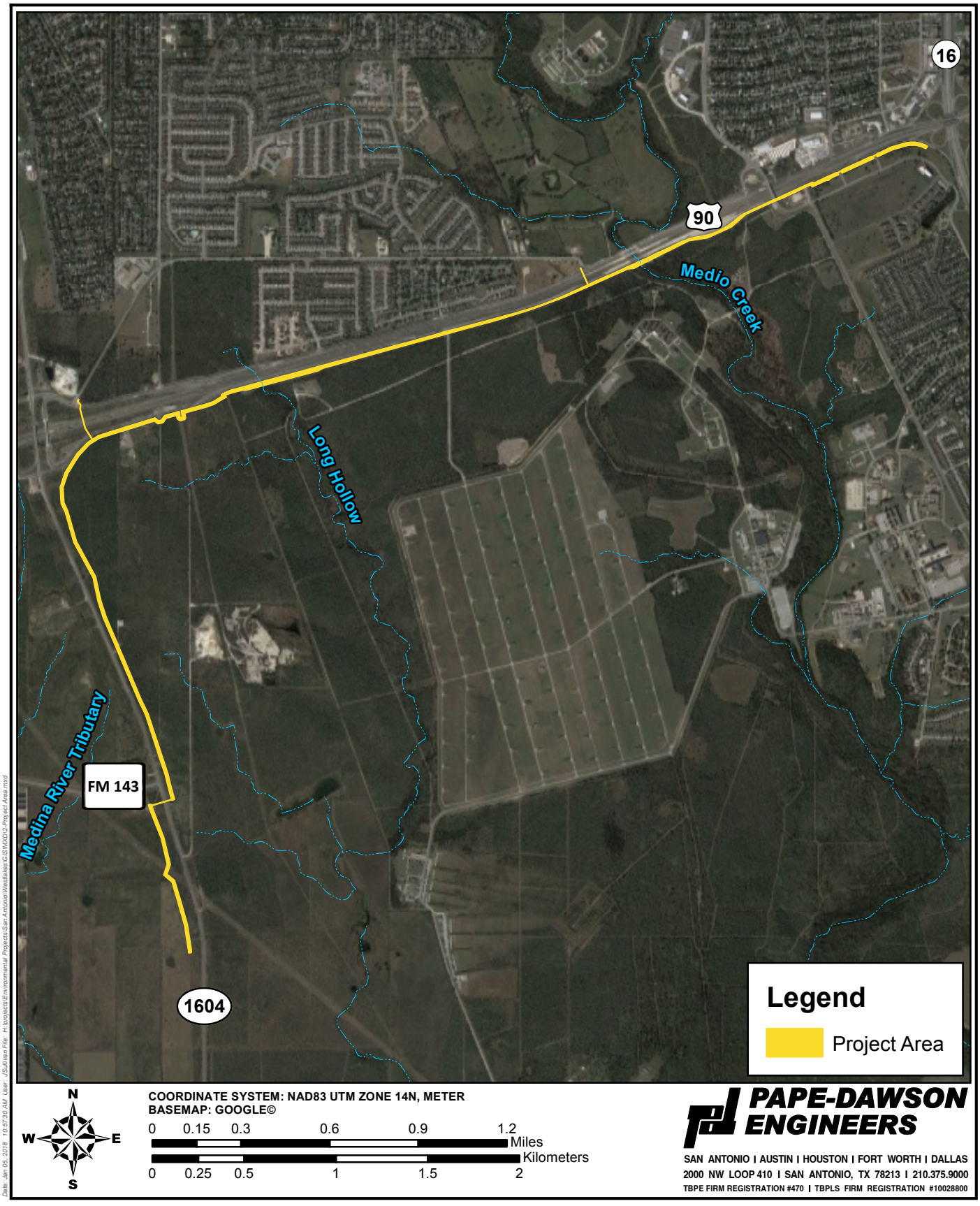


Figure 2 : Project Area Map

Figure 3a : Location of Easements and Existing ROW within the Project Area

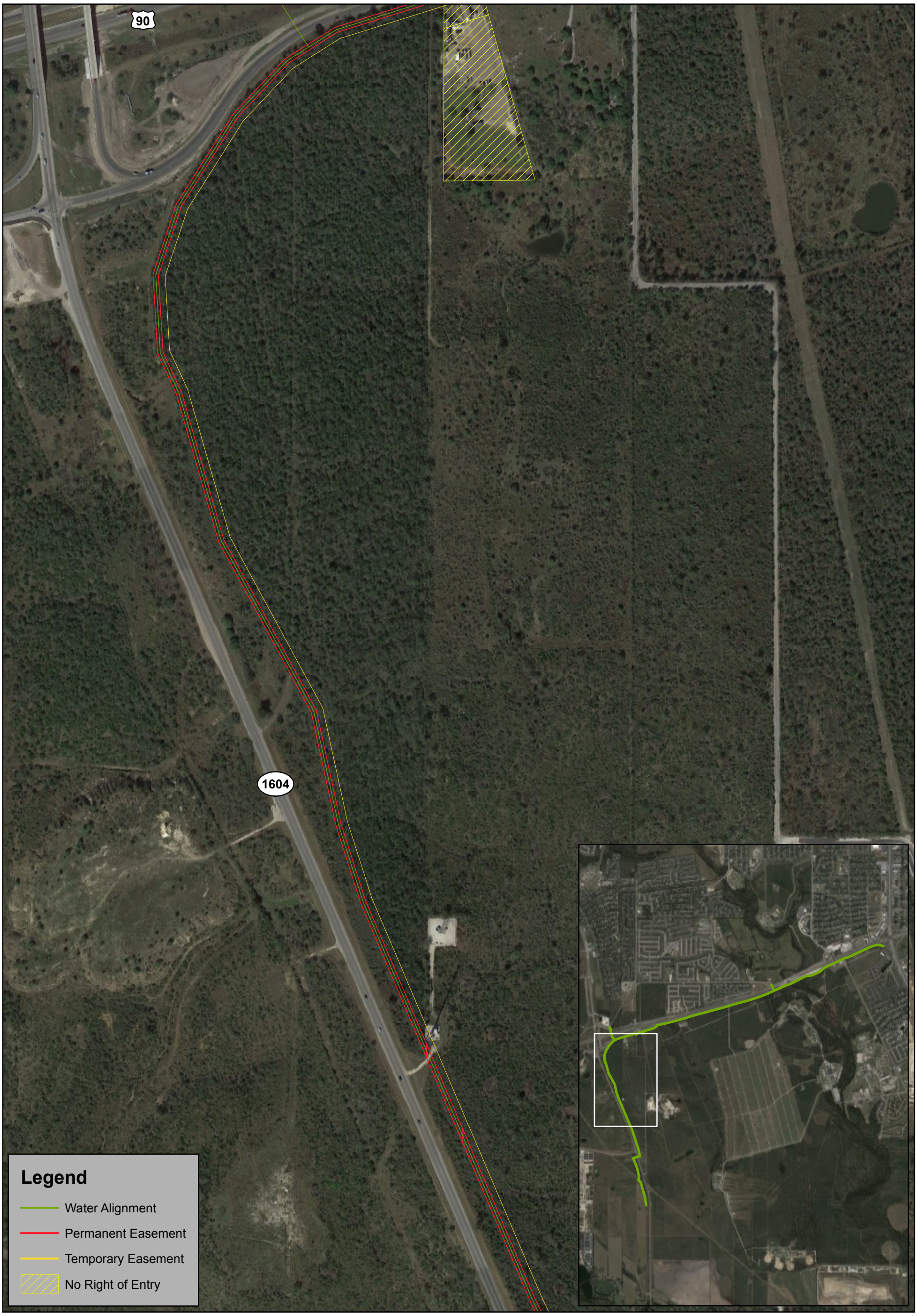
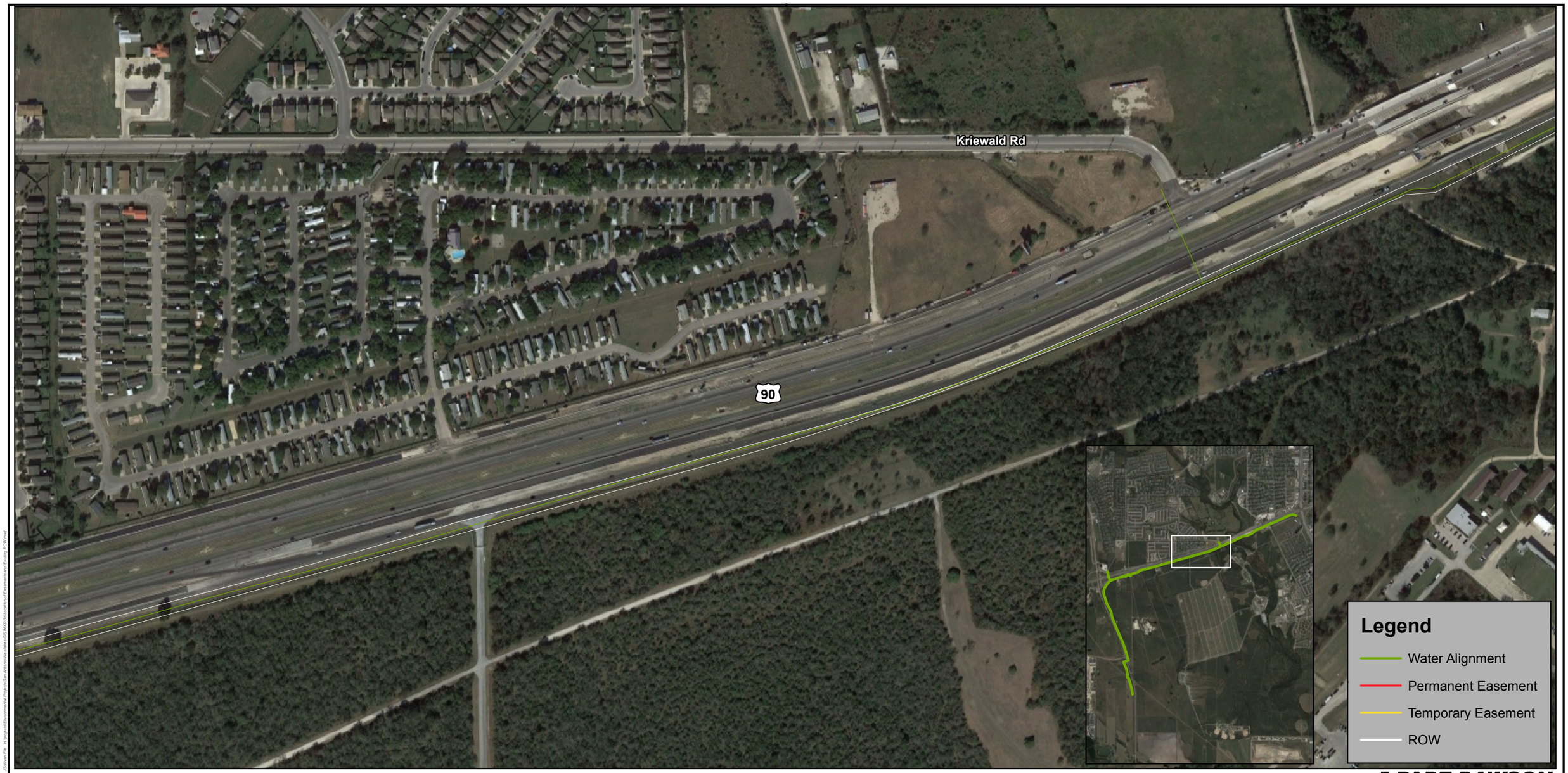


Figure 3b : Location of Easements and Existing ROW within the Project Area

Figure 3c : Location of Easements and Existing ROW within the Project Area



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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

Figure 3d : Location of Easements and Existing ROW within the Project Area

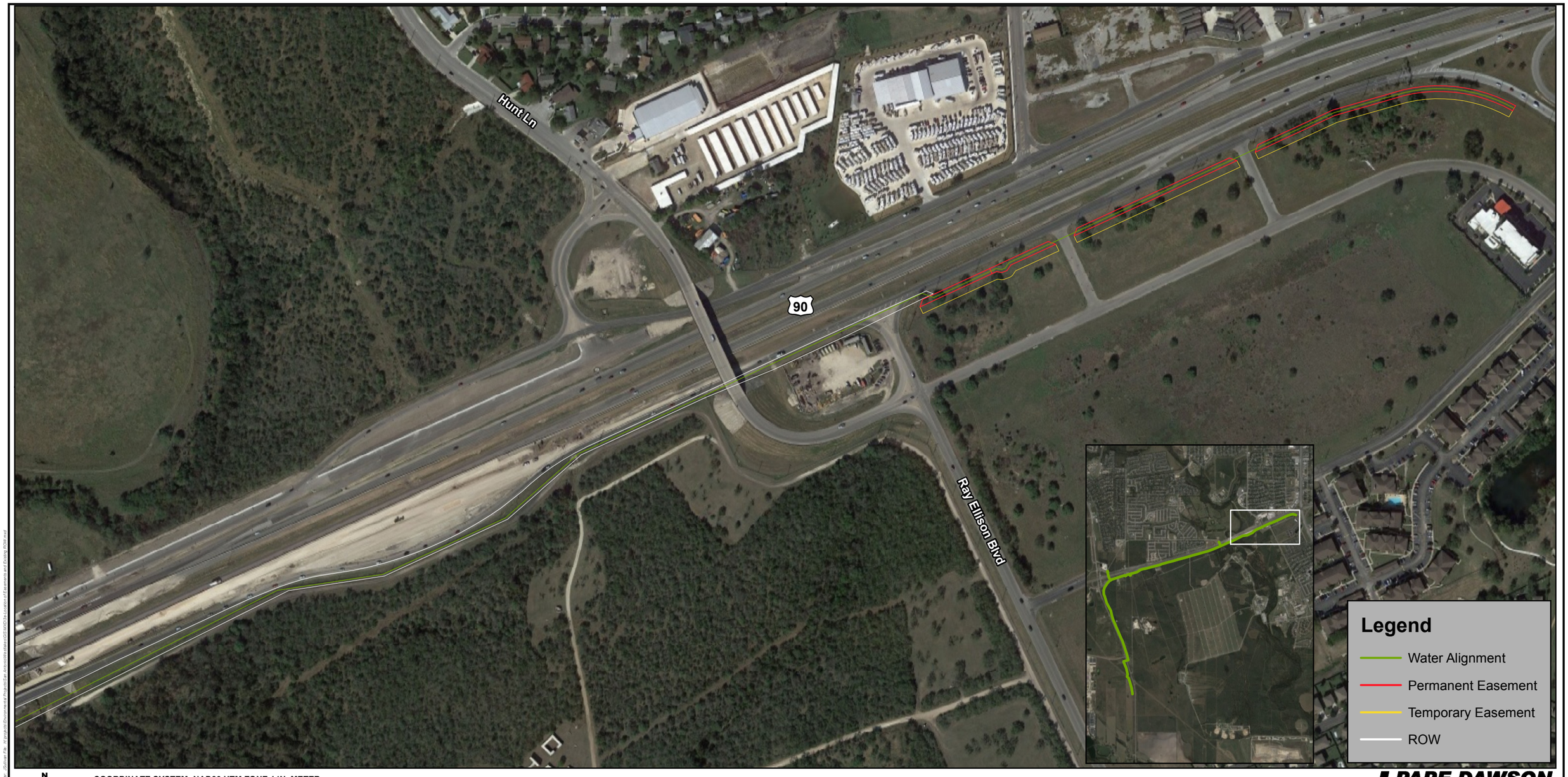

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Figure 3e : Location of Easements and Existing ROW within the Project Area

Project Setting

Located on the margins of the Blackland Prairies and the Interior Coastal Plains regions of central Texas (Wermund 1996), the project landscape is largely characterized by gently to moderately sloping upland terrain dissected by the headwaters to Long Hollow Creek and the Medio Creek drainage basin, which consists of a series of high and low stream terraces abutting a narrow floodplain that lines each side of the Medio Creek channel. The Medio Creek drainage basin within the project area is geologically mapped as Holocene-age Recent Alluvium. The portion of the project area to the west of the Medio Creek is geologically mapped as Pliocene or Pleistocene-age Uvalde Gravel while the portion to the east is mapped as Upper Cretaceous-age Navarro Group and Marlbrook Marl, undivided (Bureau of Economic Geology [BEG] 1983).

A total of eleven soil units are mapped within the project area (Table 1; Figure 4). The Houston Black, Rock outcrop-Olmos Complex, and Branyon series are composed of clayey soils that occupy gently to moderately sloping upland landforms. If present, cultural materials in these upland settings would likely be encountered along or near the ground surface. Lewisville and Patrick are located along stream terraces adjacent to Medio Creek. These soil series have developed within Quaternary-period alluvial sediments, and therefore, have the potential to contain buried archaeological material (U.S. Department of Agriculture, Natural Resources Conservation Service [USDA-NRCS] 2017). Buried material within these soils is typically reachable by shovel test investigations.

Table 1. Soils mapped within the Project Area

Soil Unit	Soil Name	Soil Description
HsB	Houston Black clay, 1 to 3 percent slopes	Upland clay formed in clayey residuum derived from calcareous mudstone of Cretaceous Age occurring on long, smooth gentle slopes.
HuB	Houston Black gravelly clay, 1 to 3 percent slopes	Upland clay formed in clayey residuum derived from calcareous mudstone of Cretaceous Age mostly occurring on long, convex slopes.
HuC	Houston Black gravelly clay, 3 to 5 percent slopes	Upland clay formed in clayey residuum derived from calcareous mudstone of Cretaceous Age occurring on narrow, convex ridges and valley walls.
HuD	Houston Black gravelly clay, 5 to 8 percent slopes	Upland clay formed in clayey residuum derived from calcareous mudstone of Cretaceous Age occurring on convex slopes that parallel the higher narrow ridges or on basins at the head of drainageways.
HgD	Rock outcrop-Olmos complex, 5 to 25 percent slopes	Very shallow upland clay loam formed in ancient loamy alluvium on undulating upland terrain.

HtA	Branyon clay, 0 to 1 percent slopes	Upland clay formed in calcareous clayey alluvium derived from mudstone of Pleistocene age occurring on the tread of stream terraces.
HtB	Branyon clay, 1 to 3 percent slopes	Upland clay formed in calcareous clayey alluvium derived from mudstone of Pleistocene age occurring on long, narrow slopes adjacent to drainageways.
LvA	Lewisville silty clay, 0 to 1 percent slopes	Silty clay formed in ancient loamy and clayey calcareous sediments occurring on level, broad terraces along rivers and creeks.
LvB	Lewisville silty clay, 1 to 3 percent slopes	Silty clay formed in ancient loamy and clayey calcareous sediments occurring on slopes that separate nearly level terraces from uplands.
PaB	Patrick soils, 1 to 3 percent slopes, rarely flooded	Clay loam formed in clayey over gravelly alluvium derived from shale, claystone, or siltstone of Cretaceous Age occurring on the tread of stream terraces.
Tf	Tinn and Frio soils, 0 to 1 percent slopes, frequently flooded	Clay formed in alluvium occurring on narrow, long floodplains of dissected plains that drain the Blackland Prairies.

A small amount of frequently flooded Tinn and Frio soils are located within the project area near Long Branch and Medio Creeks. These deposits are commonly found on narrow floodplains of dissected plains that drain the Blackland Prairies (USDA-NRCS 2017). Alluvial deposits, such as these, have a higher potential to contain intact, deeply buried cultural material. However, the proposed water line will be attached to the south side of the existing bridges that cross these waterways, and therefore, the impacts to the Tinn and Frio deposits will likely be minimal if any. Thus, mechanical excavation within these soils was not deemed necessary.

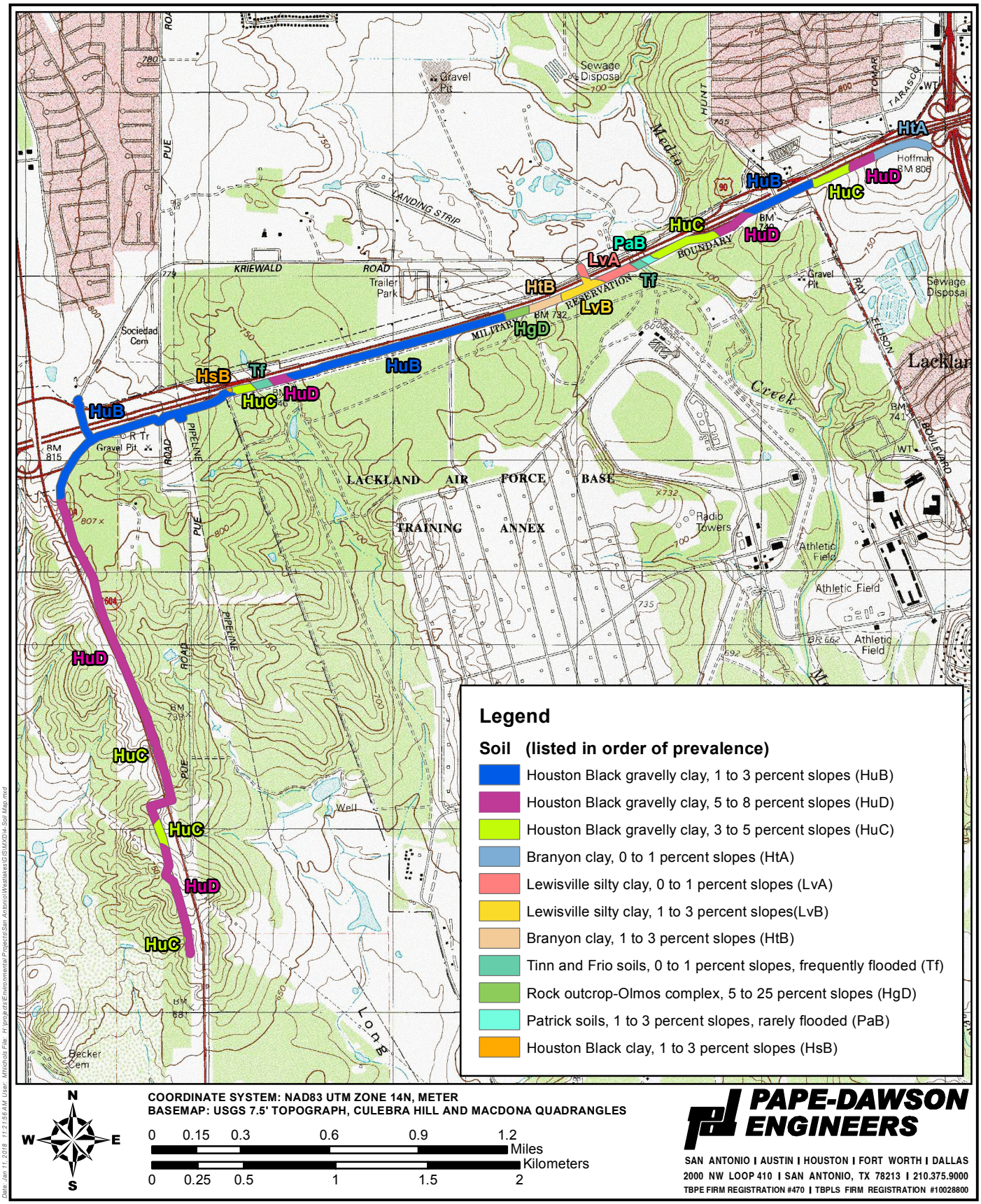

Figure 4 : Soil Map

Cultural Chronology

Bexar County falls within the Central Texas archaeological region of the Central and Southern Planning Region as delineated by the Texas Historical Commission (THC) (Mercado-Allinger et al. 1996). Cultural developments in this region are typically classified by archaeologists according to four primary chronological time periods: Paleoindian, Archaic, Late Prehistoric, and Historic. These classifications have been defined primarily by changes in material culture and subsistence strategies over time as evidenced through information and artifacts recovered from archaeological sites. This cultural chronology provides a brief summary of each major prehistoric cultural period with reference to significant archaeological work that has occurred within the region. A summary of the Historic period is not included as no historic sites were encouterned within the current project area.

Paleoindian (11,500 B.P. – 8,800 B.P.)

Although there is some debate about whether pre-Clovis Paleoindian peoples lived in Texas, there is evidence of Paleoindian occupation within Texas by 11,500 B.P. Collins (1995:376, 381) has proposed dividing this period into early and late phases, with Dalton, San Patrice, and Plainview possibly providing the transition between them. Research has shown Paleoindians were gathering wild plants and hunting large mammals (mammoth, bison, etc.) as well as smaller terrestrial and aquatic animals (Collins 1995:381; Bousman et al. 2004:75). Projectile points characteristic of the Paleoindian period in Central Texas are lanceolate-shaped and include Clovis, Plainview, and Folsom (Turner and Hester 1999). In Texas, most Paleoindian sites are classified as procurement or consumption sites (Bousman et al. 2004:76-78), but a few, such as the Wilson-Leonard site in Williamson County (Collins 1995) and the Pavo Real site in Bexar County (Henderson 1980; Collins et al. 2003; Figueroa and Frederick 2008), have produced burials in context (Collins 1995:383). Other Paleoindian sites discovered within Bexar County include site 41BX47 on Leon Creek (Tennis 1996), the Richard Beene site (41BX831) (Thoms et al. 2005; Thoms and Mandel 2007), and the St. Mary's Hall site (41BX229), which has provided insight into a more diverse diet for Paleoindian groups (Hester 1978).

As the climate warmed, the Paleoindian people began to shift away from hunting large animals. The changing environment, which led to extinction of the megafauna, likely influenced their decision to focus more on hunting small game animals, including deer and rabbit, as well as gathering edible roots, nuts, and fruits (Black 1989). This change in food supply, as well as a different set of stone tools, marks the transition into the Archaic Period.

Archaic (8,800 B.P. – 1,200 B.P.)

Usually divided into early, middle, late, and sometimes transitional sub-periods, the Archaic marks a gradual shift from hunting Megafauna and some smaller animals supplemented with wild plants to a focus on hunting and gathering medium and small animals and wild plants, and an eventual transition to agriculture. Beginning with Clear Fork gouges and Guadalupe bifaces in the Early Archaic (8500 B.P. – 6000 B.P.) (Turner and Hester 1999; Collins 1995), Early Archaic people produced a variety of point types. The variety of points and their scattered distribution over a large area in the Early Archaic may indicate smaller groups of people moving over larger territories (Prewitt 1981). Point types transition to Bell-Andice-Calf Creek, Taylor, and Nolan-Travis points in the Middle Archaic (6000 B.P. – 4000 B.P.) (Turner

and Hester 1999; Collins 1995), and burned rock middens become an important characteristic. The Middle Archaic focus on constructing burned rock ovens to cook a diverse array of plant food (Black 1989) suggests a slightly more sedentary focus. The Bulverde, Pedernales, Ensor, Frio, and Marcos points in the Late Archaic (4000 B.P. – 1300 B.P.) (Turner and Hester 1999; Collins 1995) mirror the diversity of point types found in the Early Archaic. During the Late Archaic, cemeteries, especially associated with rock shelters, become common in central Texas (Dockall et al. 2006). In Bexar County, sites with Early Archaic components include the Housman Road site (41BX47), the Richard Beene site (41BX831) (Thoms et al. 2005; Thoms and Mandel 2007), the Higgins site (41BX184) (Black et al. 1998), and the Panther Springs site (41BX228) (Black and McGraw 1985). While the Elm Waterhole site (41BX300) is representative of a Middle Archaic site within Bexar County (McNatt et al. 2000), the Granberg site (41BX17\41BX271) in San Antonio is a multi-component site with occupations from both the Middle and Late Archaic sub-periods.

Late Prehistoric (1,200 B.P. – 250 B.P.)

As the Archaic transitioned into the Late Prehistoric period, several technological changes become apparent. The most notable change is the use of the bow and arrow rather than the spear and atlatl, evidenced by smaller dart points. Another significant innovation is the creation and use of ceramic vessels. Some groups began to practice consistent agriculture during this time as well; there is some evidence that peoples in Central Texas may have incorporated agriculture into their lives, but primarily remained hunter gatherers (Collins 1995). Also during this period, there are possible indications of major population movements, changes in settlement patterns and perhaps lower population densities (Black 1989). Archaeologists divide the Late Prehistoric into two phases: the Austin phase, followed by the Toyah phase.

Methods

Records Review

Prior to fieldwork, Pape-Dawson archaeologists conducted a thorough background literature review and records search of the proposed project area. This research included searching the Texas Historical Commission's (THC) Texas Archeological Sites Atlas (THC 2018) online database for any previously recorded archaeological surveys and historic or prehistoric archaeological sites located within a 1-km (0.62-mile) radius of the project area. Archaeologists consulted the City of San Antonio (COSA) Historic Landmark Sites and Historic Geodatabases to locate any local historic landmarks and districts within the study radius. In addition, the review included information on the following types of cultural resources: National Register of Historic Places (NRHP)-listed properties and districts, State Antiquities Landmarks (SAL), Official Texas Historical Markers (OTHM), Recorded Texas Historic Landmarks (RTHL), cemeteries, and local historic landmarks and districts. The archaeologists also examined the U.S. Department of Agriculture Soil Survey of Bexar County (Taylor et al. 1991), Natural Resources Conservation Service (NRCS) Web Soil Survey, the Geologic Atlas of Texas-San Antonio Sheet (BEG 1983), and historic maps and aerials that depict the project area (Nationwide Environmental Title Research Online [NETR Online] 2016).

Fieldwork

Pape-Dawson archaeologists performed a 100 percent pedestrian survey of the proposed 24.5-acre project area for which access was available. This investigation consisted of an intensive pedestrian survey, with inspection of the ground surface augmented by shovel testing along a single transect in areas with the perceived potential for buried cultural deposits and with less than 30 percent ground surface visibility. Due to access issues, one parcel, consisting of 0.06 acres (0.02 hectares) of new easement and 0.08 acres (0.03 hectares) of temporary construction easement was not available for survey (see Figures 3b and 3c). However, this parcel was visually inspected from the existing US 90 ROW.

A total of 66 shovel tests were excavated to investigate the approximately 8.4-km (5.2-miles) long project area. Though survey methods followed the Council of Texas Archeologists' Archeological Survey Standards for Texas, shovel test investigations did not meet the state's minimum standards, which require 16 shovel tests per mile for linear project areas, due to the amount of disturbance within the section of the US 90 ROW within the project area.

Shovel tests were roughly 30 centimeters (cm) (11.8 inches) in diameter and excavated in 10-cm (3.9-inch) levels to sterile pre-Holocene-age clay, disturbed sediment, or to a maximum of 80 cm below the current ground surface. All soils were screened through ¼-inch mesh with the exception of soils with high clay content, which were sorted by hand. All shovel tests were recorded, visually described, plotted by a Global Positioning System (GPS) unit, and backfilled upon completion.

Archaeological site boundaries located on the property were defined within the project area. Sites were then recorded on TexSite forms in the field, and the forms were submitted to the Texas Archeological Research Laboratory (TARL). Artifacts observed during the survey were photographed and documented in the field, but not collected. Project records and photographs will be curated at the Center for Archaeological Research at the University of Texas at San Antonio (CAR-UTSA) following their specific standards of preparation.

Results

Records Review

The results of the cultural resources background review revealed that two sections of the project area have been previously surveyed for cultural resources. The portion of the project area situated near the intersection of US 90 and Loop 1604 was surveyed by Blanton & Associates in 2014 on behalf of the Alamo Regional Mobility Authority, and the portion of the project area located near the intersections of US 90 and Loop 410 was previously surveyed at a reconnaissance level. No archaeological sites were identified within the project area as a result of these surveys.

The review also identified two types of previously recorded cultural resources (cemeteries and archaeological sites) within the 1-km (0.62 mile) buffer (Figure 5). These resources include two cemeteries (Becker Cemetery and Sociedad Mutualista Cemetery) and 27 previously recorded archaeological sites (Table 2). While none of the identified previously recorded cultural resources are within the project area, four of the archaeological sites (41BX1105, 41BX1106, 41BX1150, and 41BX2117) are less than 100 meters away from the project area. Two of these sites (41BX1150 and 41BX2117) were found to extend into the project area, and therefore, were revisited during the current survey effort.

Table 2. Archaeological Sites found within 1- kilometer of the Project Area

Trinomial/ Site Name	Site Type	Depth of Deposits (cmbs)	Additional Information	Distance from Project Area
41BX465	Prehistoric lithic scatter and campsite	Unspecified	Further investigations recommended	0.68 km northwest
41BX1070	Prehistoric lithic quarry	Surface	Further investigations recommended	0.47 km southeast
41BX1086	Prehistoric lithic quarry and campsite	50 cmbs	Further investigations recommended	0.86 km southeast
41BX1098	Prehistoric lithic quarry	20 cmbs	Further investigations recommended	0.1 km south

Trinomial/ Site Name	Site Type	Depth of Deposits (cmbs)	Additional Information	Distance from Project Area
41BX1102	Middle Archaic campsite	60 cmbs	Further investigations recommended	0.35 km southeast
41BX1103	Transitional Archaic campsite	80 cmbs	Further investigations recommended	0.21 km southeast
41BX1104	Early Archaic through Late Prehistoric lithic quarry and campsite	50 cmbs	Further investigations recommended	1 km east
41BX1105	Prehistoric-lithic quarry	Surface	Further investigations recommended	0.04 km south
41BX1106	Prehistoric lithic quarry	20 cmbs	Further investigations recommended	0.04 km south
41BX1109	Prehistoric campsite	20 cmbs	Further investigations recommended	0.3 km south
41BX1110	Prehistoric lithic quarry	30 cmbs	Further investigations recommended	0.28 km south
41BX1111	Prehistoric lithic quarry	Surface	Further investigations recommended	0.28 km south
41BX1112	Prehistoric lithic quarry	Surface	Further investigations recommended	0.43 km south
41BX1113	Prehistoric lithic quarry	10 cmbs	Further investigations recommended	0.75 km south
41BX1114	Paleoindian and Early Archaic lithic quarry	30 cmbs	Further investigations recommended	0.83 km southeast
41BX1116	Prehistoric lithic quarry	Surface	Further investigations recommended	0.28 km south
41BX1117	Prehistoric lithic quarry	10 cmbs	Further investigations recommended	0.70 km south

Trinomial/ Site Name	Site Type	Depth of Deposits (cmbs)	Additional Information	Distance from Project Area
41BX1118	Prehistoric lithic quarry	20 cmbs	Further investigations recommended	0.47 km south
41BX1150	Prehistoric lithic procurement site	60 cmbs	No further investigations recommended	0.03 km west
41BX1208	No information on Atlas	Unspecified	No information on Atlas	0.42 km southeast
41BX1705	Prehistoric lithic procurement site	10 cmbs	No further investigations recommended	0.52 km west
41BX1749	Late 19th or Early 20th century Historic artifact scatter and Prehistoric Site	80 cmbs	Prehistoric component -Eligible for NRHP listing	0.1 km northwest
41BX2117	Prehistoric lithic procurement site	Surface	No further investigations were recommended	0.03 km east
41BX2118	Prehistoric lithic procurement site	Surface	No further investigations were recommended	0.48 km east
41BX2119	Prehistoric lithic procurement site	Surface	No further investigations were recommended	0.47 km east
41BX2120	Historic farmstead/Prehistoric procurement site	Surface	No further investigations were recommended	0.25 km east
41BX2121	Historic site	Surface	No further investigations were recommended	0.40 km east

Of the 27 previously recorded sites, the majority (n=23) are prehistoric lithic quarry/procurement and/or campsites. The remaining sites in proximity to the project area include one historic site (41BX2121), two sites (41BX1749 and 41BX2120) containing both a prehistoric and historic component, and one site (41BX1208) for which the Atlas provided locational information only.

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Seventeen (41BX1070, 41BX1086, 41BX1098, 41BX1102 thru 41BX1106, 41BX1109 thru 41BX1114, and 41BX1116 thru 41BX1118) of the 27 sites were recorded by the University of Texas – San Antonio's Center for Archaeological Research (CAR) during a survey of the Lackland Air Force Base that they conducted between 1994 and 1995 for the US Air Force through the National Park Service. While they recommended that all 17 of these sites were potentially eligible for NRHP listing and SAL designation, only six (41BX1070, 41BX1102, 41BX1103, 41BX1105, 41BX1106, 41BX1114) were recommended for archaeological testing. CAR suggested that future work at the other 11 sites should include more subsurface investigations since they typically only excavated one shovel test at each site.

In addition to the sites recorded by CAR, two other sites (41BX465 and 41BX1749) in proximity to the project area were recommended for further work. A. McGraw recorded site 41BX465 in 1977 based on its surface expression only. As no shovel tests were conducted, he recommended additional work to determine if buried deposits with potential research value and archaeological significance exist at the site. SWCA recorded site 41BX1749 in 2007 when the site was identified in a backhoe trench along Medio Creek. They recovered a uniface, a few pieces of lithic debitage, and a few pieces of fire-cracked rock within the trench walls roughly 80 cmbs, and recommended the site for archaeological testing. In 2008, CAR conducted NRHP-Eligibility testing at the site. Their work concluded that 41BX1749 is a multi-component site containing a late 19th or early 20th century historic component and a prehistoric component of unknown cultural affiliation. Although the prehistoric component could not be dated, it was found to be partially intact, and therefore, was recommended eligible for listing in the NRHP. The THC concurred with CAR's recommendation later that same year.

In addition to the Atlas file review, Pape-Dawson archaeologists engaged in a limited amount of additional research including a review of modern and historic-age aerial photographs and topographic maps (NETR Online 2017). This review identified one Historic High Probability Area (HHPA), an area where historic archaeological deposits associated with former structures may exist within the project area (Figure 6e). This area is located on the south side of US 90 roughly 90 m (295 ft) south-southeast of the intersection of the westbound US 90 access road and Tomar Drive. A cluster of structures appears in this area on a 1959 topographic map. Two of these structures reappear on the subsequent 1969, 1975, 1983, and 1993 topo maps. An aerial photograph from 1955 shows at least four structures at this location. The subsequent 1963 and 1966 photographs confirm the presence of four structures. While two of the structures appear to have been removed or demolished by 1973, all of the structures appear to be no longer standing by 1995.

Fieldwork

Pape-Dawson archaeologists conducted an archaeological survey of the 24.5 acre-project area between February 8 and 12, 2018. Archaeologists walked the project area along a single transect, visually inspecting the ground surface for artifacts and features. The pedestrian survey was augmented with judgmentally placed shovel tests. The project area falls within both existing US 90 ROW and private property on which waterline and temporary construction easements are being acquired. All existing ROW as well as all new waterline easements and temporary construction easements within the project area were surveyed for cultural resources with the exception of one parcel, consisting of 0.06 acres (0.02 hectares) of new easement and 0.08 acres (0.03 hectares) of temporary construction easement, for which right-of-entry was not available at the time of the survey (Figures 6a-e). Previous impacts to the project area were photographed and noted as part of the survey effort.

Vegetation within the existing US 90 ROW consisted of short, maintained grasses that limited surface visibility to less than 30 percent. Survey of this portion of the project area found the majority of the US 90 ROW to be significantly disturbed due to the construction of the US 90 main roadway and frontage roads; associated road embankments, drainage ditches and culverts; as well as the installation of telephone poles, signage, and buried public utilities. Due to the amount of previous impacts within the ROW, shovel tests were placed in areas of least disturbance. However, the narrower sections of ROW were so disturbed (Figure 7) that shovel testing was often precluded altogether. Shovel tests that were placed within the existing ROW largely revealed disturbed sediments as evidence by mixed soils, road base gravels, and modern debris (ex: plastic, metal, car window glass shards).

Vegetation within the new easements located on private property varied depending on land use. The majority (75 percent) of the new easements falls across tracts of undeveloped rangeland. These tracts are largely forested with huisache and mesquite trees, but also contain scrub brush and native grasses. Ground surface visibility across the rangeland varied from 10 to 80 percent depending on the height and coverage of native grasses. Uvlade gravels were often observed scattered across the ground surface within these tracts when ground surface visibility was high. The western and easternmost portions of the project area are situated across mostly cleared pastureland, which comprises roughly 24 percent of the new easements. Vegetation within the pastureland consists of native grasses and scattered live oak trees. Ground surface visibily was limited to 10 precent across much of these tracts. The remaining 1 percent of new easements consisted of paved parking lots associated with either an extant or former commercial structure.

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Figure 7: Disturbances within US 90 ROW including buried cable and sewer lines, ditch, and road embankment, facing east

Within the new easements, shovel tests were placed in areas with the perceived potential for intact soils and with low ground surface visibility. The majority of these shovel tests encountered very dark gray to very dark grayish brown clay loam with common gravels and cobbles. This generally corresponds to the Houston Black soil mapped within over 90 percent of the new easement location. Shovel tests were typically terminated at 30 cm below surface due to presence of pre-Holocene-age upland clay.

Within the new easements, three shovel tests were also placed within the previously defined HHPA (see Figure 6e). None of the shovel tests within or near the HHPA were positive for historic or prehistoric artifacts, and no historic artifacts or structural remains were observed within the HHPA within the project area. However, three concrete foundations were observed just outside of the project area to the south (Figure 8).

Figure 8: Concrete foundation as seen from project area, facing southeast

One parcel within the project area could not be surveyed due to access issues at the time of the field investigations. This parcel was visually inspected from the existing US 90 ROW. Within the project area, this parcel has been disturbed by commercial development. This portion of new easement contains a driveway and an area of asphalt partially covered by a thin layer of grasses (Figure 9). As a result of these impacts within an upland setting, the potential for intact archaeologically deposits within this portion of the project area is considered low.

During the current survey effort, a total of 66 shovel tests was excavated (see Figures 6a-e).Of those, three shovel tests were positive for cultural material. These shovel tests were located within an observed prehistoric lithic scatter that is largely limited to the ground surface. This lithic scatter within the project area appears to link previously recorded sites 41BX1150 and 41BX2117. Both 41BX1150 and 41BX2117 are prehistoric lithic procurement sites, and both sites cross similar topographic settings as they relate to each other and to the prehistoric deposits observed within the current project area. As such, Pape-Dawson submitted a site 41BX1150 revisit form to TARL recommending that these sites be combined into one site (41BX1150) and that site 41BX1150 should also include the horizontal limits of

the prehistoric deposits noted within the current project area. Site 41BX1150 will be further discussed below.

Figure 9: Overview of project area within parcel with no ROE at the time of survey, facing east-southeast

Site Description

Site 41BX1150

Setting and Description

Site 41BX1150 is a prehistoric lithic procurement site largely situated across the summit and side slope of an upland ridge. The site was initially recorded in 1997 by P. Maslyk and R. Peralez of TxDOT while conducting a survey for the FM 143 from Loop 1604 to Cagnon Road project. At that time, the site was reported to primarily consist of a large scatter of non-diagnostic lithic debitage and tested cobbles, but some burned rocks, a few early stage bifaces, and a scraper were also encountered. Artifacts were recovered from the surface and within subsurface deposits extending to a depth of 60 cmbs.

The portion of the site originally recorded as site 41BX2117 by J. Hamilton of Pape-Dawson in 2016 was discovered during a survey conducted ahead of residential development on privately-owned land. This portion of the site was reported to consist of a surface scatter containing three early-stage bifaces, one core, one tested cobble, and seven pieces of lithic debitage. Though eight shovel tests were excavated within and near the surface scatter, none were positive for subsurface cultural deposits.

Vegetation at the site within the current project area consists of mesquite, huisache, and oak trees, scrub brush, and a mix of native grasses (Figure 10). Ground surface visibility ranged from 0 to 80 percent at the time of the current survey. In areas with improved ground surface visibility, limestone and chert cobbles and gravels could be seen interspersed amongst the grasses (Figure 11). Soils in the area have been mapped as Houston Black gravelly clay with slopes ranging from 1 to 8 percent (Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture 2018). In addition, the majority of the site is underlain by Uvalde Gravels deposits, which were deposited by ancient rivers that once crossed the region (BEG 1983). These gravels are a great source of raw material for the manufacturing of lithic tools.

Disturbances within the site have resulted from both natural and artificial impacts. Artificial impacts include the construction of FM 143 and Loop 1604, land clearing within pastureland, and commercial development within a few land parcels. Natural impacts include erosion and bioturbation caused primarily by root activity.

Figure 10: Overview of Site 41BX1150 vegetation within project area, facing southwest

Figure 11: Limestone and chert gravels and cobbles on the surface within site 41BX1150, facing northeast

Work Performed and Recommendation

Pape-Dawson archaeologists revisited site 41BX1150 during the course of the current survey. The portion of the site that extends into the current project area was initially discovered based on its surface expression. Observed lithic artifacts on the ground surface include large primary, secondary, and tertiary flakes, tested cobbles, multidirectional cores, two early-stage bifaces, two scrapers, and two edge-modified flakes. A few fire-cracked rocks were also encountered sparsely scattered across a portion of the project area though no intact burned rock features were discovered.

Thirty-eight shovel tests (Figure 12) were excavated within and adjacent to the observed lithic surface scatter to investigate the potential for intact subsurface deposits. Shovel tests exposed very dark gray to very dark grayish brown gravelly clay loam. These shovel tests were either terminated at 30 cm within this upland clay or after two-sterile levels. Three (STs 3, 9, and 26, see Figure 12) of the 38 shovel tests were positive for cultural material yielding the distal tip of a mid-stage biface (Figure 13), a flake, and an early-stage biface (Figure 14), respectively. While the flake and early-stage biface were recovered between 0 and 10 cmbs, the mid-stage biface frag was recovered from between 10 and 20 cmbs. ST 5 also resulted in the discovery of a flake within level 1 (0 to 10 cmbs); however, a piece of colorless glass was discovered beneath it within level 2 (10-20 cmbs). The reverse chronological sequence of these artifacts coupled with the slope of the upland terrain suggests that at least part if not most of the subsurface deposits associated with the site have likely been buried as a result of erosion and colluvial processes.

While site 41BX1150 in general comprises a sprawling, low-density lithic scatter associated with lithic procurement activities, three discernable high artifact concentration areas were noted during the course of the survey (see Figure 12). These concentration areas largely coincide with areas with good ground surface visibility that are situated on or near summits of upland ridges. The first area was identified near the southern terminus of the project area. Observed artifacts (Figure 15) within this area include roughly 50 flakes, five multi-directional cores, five tested cobbles, two biface fragments, and one edge-modified flake. The second concentration area, situated just north of FM 143 on the east side of Loop 1604, contained roughly 150 flakes, 10 cores, two scrapers, one edge-modified flake and a light scatter of fire-cracked rock (Figures 16 and 17). The third area was encountered within the project area just south of the intersection of Loop 1604 and US 90. Observed artifacts within this area include roughly 25 flakes and one early-stage biface.

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Figure 13: Mid-stage biface distal tip from level 2 (10-20 cmbs) of ST 3

Figure 14: Early-stage biface from level 1 (0-10 cmbs) of ST 26

Figure 15: Sample of artifacts from concentration area 1. Top Row: an edge-modified flake; Bottom Row: two tertiary flakes and one multi-directional core

Figure 16: Sample of lithic debitage from concentration area 2. Top row: two primary flakes; Middle row: two secondary flakes; Bottom row: three tertiary flakes

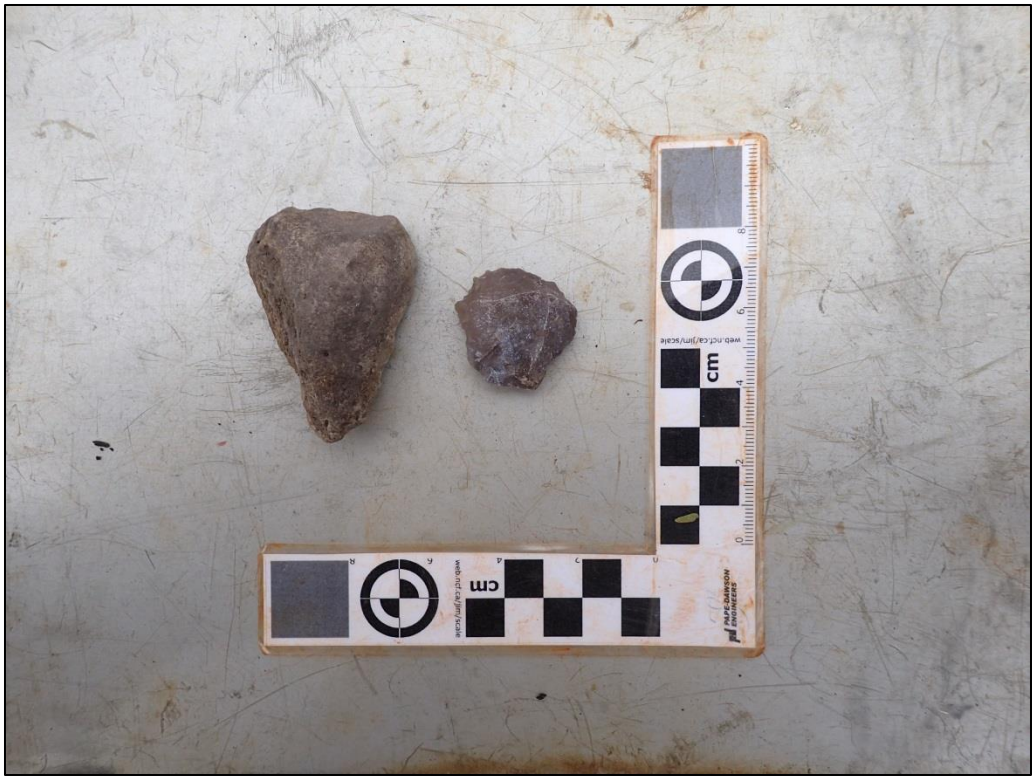

Figure 17: Two end-scrapers from concentration area 2

As previously mentioned, the lithic scatter representative of lithic procurement activities within the current project area comes within 30 m of two previously recorded prehistoric lithic procurement sites (41BX1150 and 41BX2117), thereby acting as a link between these two sites. For this reason, Pape-Dawson submitted a site revisit form for 41BX1150 to TARL recommending that the two previously recorded sites (41BX1150 and 41BX2117) be combined into one site (41BX1150) and that the site boundary for site 41BX1150 be expanded to include the lithic scatter within the current project area. It should also be noted that the recorders of site 41BX1705, another lithic procurement site, concluded that site 41BX1705 may also be a part of site 41BX1105 (Atlas). In fact, it is possible that all of the previously recorded lithic procurement sites (41BX1098, 41BX1104, 41BX1110, 41BX1111, 41BX1112, 41BX1113, 41BX1116, 41BX1117, 41BX1118, 41BX1705, 41BX2117, 41BX2118, 41BX2119, and 41BX2120) (see Figure 5 and Table 2) located across the same upland landform as site 41BX1150 are part of a singular lithic quarry site that prehistoric people in the area repeatedly visited over thousands of years to procure raw material for the purposes of lithic tool manufacturing.

Summary and Recommendations

Between February 8 and 12, 2018, Pape-Dawson conducted an archaeological investigation of the proposed SAWS Westlakes Water Main project located partially within the City of San Antonio in Bexar County, Texas. The project will entail the installation of approximately 5.2 miles (8.4 km) of new water line. Two tie-ins as well as a segment of the main alignment that crosses Loop 1604 will be bored beneath the roadways while the remainder of the line will be laid out in a trench and backfilled. The project will consist of a total area of roughly 24.5 acres (9.9 ha) extending across both public and private land. Though the vertical depths of impact are currently unknown, the maximum depth of ground disturbance within the water easement and existing road ROW is considered to be up to 8 ft (2.4 m) below the ground surface based on typical water line design, except at the bore location where impacts may be deeper. Ground disturbance within the temporary construction easement will be minimal and should not exceed 1 ft (30 cm) below the current ground surface.

Based on SAWS' status as a political subdivision of the State of Texas, compliance with the Antiquities Code of Texas (ACT) is required. Pape-Dawson applied for and received Texas Antiquities Permit No. 8312. However, as no Federal funding or permitting is required for this project, compliance with Section 106 of the National Historic Preservation Act (NHPA) was not necessary.

The project area was subjected to a pedestrian survey with shovel testing with the exception of one parcel that could not be accessed because right-of-entry had not been obtained at the time of the survey. However, this parcel has been heavily disturbed by commercial development, and therefore, has a low potential to contain intact archaeological deposits. A total of 66 shovel tests were excavated to investigate the project area. As a result of the pedestrian survey and shovel test effort, it was determined that archaeological deposits associated with previously recorded sites 41BX1150 and 41BX2117 extend into the current project area.

Sites 41BX1150 and 41BX2117 are prehistoric lithic procurement sites of indeterminate temporal affiliation. The lithic scatter resulting from lithic procurement activities within the current project area comes within 30 m of each of these sites largely bridging the gap between them. For this reason, Pape-Dawson submitted a site revisit form for 41BX1150 to TARL recommending that the two previously recorded sites (41BX1150 and 41BX2117) be combined into one site (41BX1150) and that the site boundary for site 41BX1150 be expanded to include the lithic scatter within the current project area.

Within the portion of site 41BX1150 that extends into the current project area, no diagnostic material or features were observed. Lithic artifacts were primarily limited to the ground surface though a few artifacts were recovered subsurface at depths ranging from 0 to 20 cmbs. Given the absence of diagnostic material and/or features, and the lack of intact subsurface deposits, Pape-Dawson recommends that the portion of site 41BX1150 within the current project area is not eligible for SAL designation.

Based on the results of the survey, Pape-Dawson recommends that no further archaeological work is necessary and that the project be allowed to proceed. However, if undiscovered cultural material is encountered during construction, it is recommended that all work in the vicinity should cease and that the discovery be evaluated by a qualified archaeologist who can provide guidance on how to proceed in accordance with state regulations.

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